

Examining the Feasibility of a Mobile Web-Based Follow-Up System for Post-Operative ACL Reconstruction Patients

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Summary:

This study demonstrates the utility of a mobile web-based follow-up system in assessing patient recovery and its potential to change the way post-operative ACL reconstruction patients are followed.

Abstract:

Background:

Advances in mobile technology are utilized to enhance many areas in medicine. Follow-up care during the initial six weeks after surgery has been identified as an area for improvement in patient care. During this period, the persistence of symptoms that go unchecked can lead to anxiety and the development of complications, leading to unscheduled ER and clinic visits, calls to surgeon's offices, and readmissions. For ACL reconstruction patients, post-operative follow-up appointments are often short, non-informative, inconvenient and increase wait times for other patients. The purpose of this study is to examine the operational feasibility of a mobile web-based follow-up, determine its usefulness to physicians and patients, and establish if its use changes post-operative management.

Methods:

QoC Health developed a mobile application used to monitor patient recovery at home. In addition to routine follow-up questions, pictures of wound sites were taken with the mobile device. Daily responses and images were uploaded to the QoC Health Portal, which could be accessed by each surgeon at our institution. Eligible patients undergoing ACL reconstruction were consecutively recruited to use this application post-operatively, in addition to attending regular clinic appointments. Data from this group of thirty-one patients was collected via the application and analyzed to evaluate recovery trends during the first six post-operative weeks. Following completion of the study, patients answered a survey assessing their recovery and were interviewed on their experience with using the mobile device. Physicians completed a survey at the conclusion of the study to assess their experience using the technology.

Results:

Participants described their satisfaction with the mobile device as "Excellent" (43.3%), "Good" (40%), "Fair" (10%), and "Poor" (6.7%). 96.7% (n=29) reported that they would respond to questions using a similar mobile application in the future. Both physicians rated their experience as positive and identified many useful traits in the web-portal. Each indicated their desire to continue to use this solution and would recommend it to other physicians and patients. The application changed post-operative management in one patient, who was asked to return to rule out a possible infection following review of an uploaded image. It was estimated that the majority of patients could have skipped follow-up at 2 and 6 weeks due to the application's efficacy.

Conclusion:

This system has the potential to accurately assess patient recovery, is well received by patients and physicians, and could be used to change the way post-operative patients are followed. It will be important to study the financial

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implications of this method for patients, physicians, and hospitals. Recognition of the study's limitations and employment of patient and physician feedback to improve the current application is essential before conducting a study comparing standard clinic follow-up and mobile web-based follow-up alone.